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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/627,779	07/28/2003	Shinichi Nagano	240963US2SRD	4290

22850 7590 05/03/2007

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EXAMINER	
HARPER, LEON JONATHAN	
ART UNIT	**PAPER NUMBER**
2166	

NOTIFICATION DATE	DELIVERY MODE
05/03/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/627,779	NAGANO ET AL.	
	Examiner	Art Unit	
	Leon J. Harper	2166	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 February 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10/10/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2/12/2007 has been entered. Claims 1,7,13 and 18 have been amended. No claims have been canceled or added. Accordingly claims 1-18 are pending in this office action.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-18 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. All of the claims are directed to calculating a plan that will change the state of a user from the present state stored in a first storage into a target state (a.k.a. a coordination plan). However once the plan is calculated there is nothing done with the plan i.e. the first and second web service are arranged but there is no execution of the plan, nor is there an output of the plan as mentioned in page 11 of applicant's arguments. Consequently, the claims lack a useful concrete and tangible result as required by 35 U.S.C. 101.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6529899 (hereinafter Kraft) in view of importing the Semantic Web in UDDI (hereinafter Payne) (art of record) and in further view of 5862325 (hereinafter reed) .

2. As for claim 1 Kraft discloses: a second storage section which stores a database that associates preconditions representing, in predicate form, necessary conditions for users to use Web services via an information communication network, with post conditions representing, in predicate form, the effects of invocation of the corresponding Web services (See column 8 lines 26-32).

Kraft differs from the claimed invention in that Kraft does not explicitly disclose and acquiring from the second storage a combination of Web services which satisfies

the user's request by logically combining the preconditions and post conditions for a plurality of Web services including a first Web service having the preconditions matching with the user data and a second Web service having the post conditions matching with the user data, and creating a Web service linking plan where the first Web service included in the combination is arranged to be performed after the second Web service included in the combination bases on an order of the logical combination, a first storage section which stores user data that makes predicates indicating a states of a user coordination plan creating means for, when receiving a user's request including search conditions for the Web services, acquiring matching user data in predicate form corresponding to the user's request from the first storage section.

Payne however does discloses: acquiring from the second storage a combination of Web services which satisfies the user's request by logically combining the preconditions and post conditions for a plurality of Web services including first Web service having the preconditions matching with the user data and a second Web service having the post conditions matching with the user data (See page 4 1st paragraph), and Reed discloses: creating a Web service linking plan where the first Web service included in the combination is arranged to be performed after the second Web service included in the combination based on an order of the logical combination (See reed column 19 lines 37-41) and a first storage section which stores user data that makes predicates indicating a states of a user (See reed column 23 lines 27-31); coordination plan creating means for, when receiving a user's request including search conditions for the Web services, acquiring matching user data in predicate form corresponding to the

user's request from the first storage section (See reed column 34 lines 49-53). It would have been obvious to an artisan of ordinary skill in the pertinent art to have incorporated the teachings of Payne and Reed into the system of Kraft. The modification would have been obvious because automatically disclosing web services matching the user data and creating a web service linking plan will allow for faster and more efficient communication over the network.

As for claim 2, the rejection of claim 1 is incorporated, and further reed discloses: the coordination plan creating means carries out a first process of matching the predicate of the precondition with the predicate of the user data and matching the predicate of the post condition with the predicate of the user's request in respect to one Web service (See column 16 lines 5-11), and a second process of matching the predicate the precondition with a predicate of first predicate including the user data unmatched in the first process and matching the predicate of the post condition with a second predicate including the predicate of the user's request unmatched in the first process respect to other Web services excluding the one Web service (See column 115 lines 23-29).

As for claim 3, the rejection of claim 2 is incorporated, and further Reed discloses: the coordination plan creating means carries out the second process by

calling the first process recursively (See column 115 lines 25-30 note: the submitting of additional data is done in the same manner).

3. As for claim 4, the rejection of claim 1 is incorporated, and further reed discloses: the coordination plan creating means carries out a first process of matching the predicate of the precondition with the predicate of the user data and matching the predicate of the post condition with the predicate of the user's request in respect to one Web service (See column 48 lines 35-39), and a third process of matching the predicate of the post condition with a third predicate including the predicate of the user's request unmatched in the first process in respect to other Web services excluding the one Web service (See column 48 lines 40-45).

As for claim 5, the rejection of claim 4 is incorporated, and further reed discloses the coordination plan creating means carries out the third process by calling the first process recursively (See column 115 lines 25-30 note: the submitting of additional data is done in the same manner).

As for claim 6, the rejection of claim 1 is incorporated, and further Payne discloses: third storage section which stores an ontology dictionary where a plurality of predicates describing each state by predicate logic notation are classified hierarchically in database form (See figure 1), wherein the coordination plan creating means creates

matching user data by changing the predicate included in the user's request according to a hierarchical level in the ontology dictionary (See page 4 paragraph 2).

4. As for claim 7 Kraft discloses: Kraft discloses: necessary conditions for users to use Web services via an information communication network, with post conditions representing, in predicate form, the effects of invocation of the corresponding Web services (See column 8 lines 26-32).

Kraft however differs from the claimed invention in that a first step of, when receiving a user's request including search conditions for the Web services, acquiring matching user data in predicate form corresponding to the user's request from a first storage section; a second step of acquiring from the second storage a combination of Web services which satisfies the user's request by logically combining the preconditions and post conditions for a plurality of Web services including first Web service having the preconditions matching with the user data and a second Web service having the post conditions matching with the user data, and a third step of creating a Web service linking plan where the first Web service included in the combination acquired in the second step is arranged to be performed after the second Web service included in the combination based on an order of the logical combination are not explicitly disclosed. Payne however does discloses: a second step of acquiring from the second storage a combination of Web services which satisfies the user's request by logically combining the preconditions and post conditions for a plurality of Web services including a first

Web service having the preconditions matching with the user data and a second Web service having the post conditions matching with the user data (See page 4 1st paragraph). While Reed discloses receiving a user's request including search conditions for the Web services, acquiring matching user data in predicate form corresponding to the user's request from a first storage section (See reed column 23 lines 27-31); and a Web service linking plan where the individual Web services included in the combination acquired in the second step are arranged in the order of the logical combination (See reed column 19 lines 37-41) . It would have been obvious to an artisan of ordinary skill in the pertinent art to have incorporated the teachings of Reed into the system of Kraft. The modification would have been obvious because The modification would have been obvious because receiving user request and creating a web service linking plan will allow for faster and more efficient communication over the network.

As for claim 8 the rejection of claim 7 is incorporated, and further reed discloses: a fifth step of matching the predicate of the precondition with a first predicate including the predicate of the user data unmatched in the fourth step and matching the predicate of the post condition with a second predicate including the predicate of the user's request unmatched in the fourth step in respect to other Web services excluding the one Web service (See column 115 lines 23-29).

Reed and Kraft differ from the claimed invention in that a fourth step of matching the predicate of the precondition with the predicate of the user data and matching the predicate of the post condition with the predicate of the user's request in respect to one

Web service and Payne however, does disclose: a fourth step of matching the predicate of the precondition with the predicate of the user data and matching the predicate of the post condition with the predicate of the user's request in respect to one Web service (See page 4 1st paragraph). It would have been obvious to an artisan of ordinary skill in the pertinent art to have incorporated the teaching of Payne into the system of Reed and Kraft. The modification would have been obvious because matching with respect to one service is time saving and more efficient then always checking every service.

As for claim 9, the rejection of claim 8 is incorporated, and further reed discloses: the second step is a step of carrying out the fifth step by calling the fourth step recursively. (See column 115 lines 25-30 note: the submitting of additional data is done in the same manner).

As for claim 10, the rejection of claim 7 is incorporated, and further reed discloses: a sixth step of precondition with the matching the predicate of the predicate of the user data and matching the predicate of the post condition with the predicate of the user's request in respect to one Web service (See column 16 lines 5-11), and a seventh step of matching the predicate of the post condition with a third predicate including the predicate the user's request unmatched in the sixth step in respect to other Web services excluding the one Web service (See column 115 lines 23-29).

As for claim 11, the rejection of claim 10 is incorporated, and further reed discloses: the second step is a step of carrying out the seventh step by calling the sixth step recursively. (See column 115 lines 25-30 note: the submitting of additional data is done in the same manner).

As for claim 12, the rejection of claim 7 is incorporated, and further Payne discloses: using an ontology dictionary where a plurality of predicates describing each state by predicate logic notation are classified hierarchically database form (See figure 1), wherein the first step is a step creating matching user data by changing the predicate included in the user's request according to a hierarchical level in the ontology dictionary (See page 4 paragraph 2).

Claims 13-18 are computer readable medium claims corresponding to the method claims 7-12 respectively and are thus rejected for the same reasons set forth in the rejection of claims 7-12.

Response to Arguments

Applicant's arguments filed 2/12/2007 have been fully considered but they are not persuasive.

Applicant argues:

Kraft describes a system that finds a single web service including a keyword input by the user. In Kraft the user has to combine the plurality of Web services manually by using the system. Reed describes a system that executes a sequence of Web services. The execution sequence of Web services is previously calculated or manually developed by the user. In addition reed does not disclose means for automatically constructing a Web service. Payne describes a method for dealing with the meaning of the Web service using a search engine which is one of the Web services. According to Panye it is possible to write the precondition and post condition of the Web service. However, Payne merely indicates writing the precondition and post condition of a single Web service. Therefore the references whether taken individually or in combination, fail to teach or suggest a method of automatically creating the execution sequence of Web services.

Examiner responds:

Examiner is not persuaded. It is admitted that Reed describes executing a sequence of web services, while payne indicated=s that preconditions and post conditions can be written. However payne discloses writing preconditions and post

conditions for more than a single web service (See abstract) therefore when combined with Kraft and Reed you get a system that combines the preconditions and post conditions for web services including a first and second, since by definition services means more than one.

Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leon J. Harper whose telephone number is 571-272-0759. The examiner can normally be reached on 7:30AM - 4:00Pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain T. Alam can be reached on 571-272-3978. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LJH
Leon J. Harper
April 27, 2007

Mohammad Ali,
Primary Examiner